A digital television which can receive digital broadcast programs and present them as high-quality picture and sound is being popularized. The digital broadcast signal to be processed in the digital television contains PSI for various programs and data presentation control as well as a digital video and audio signal. It is specified that the PSI should be intermittently inserted in the data stream of the digital broadcast signal.

Please replace the paragraph beginning on page 2, line 11, with the following rewritten paragraph:

Therefore, when reproducing MPEG-formatted data stream recorded in a HD-DVD and sending it to the digital television 500 connected through a digital interface such as IEEE 1394 standard, the disk device 100 should provide PSI, which consists of a program association table (PAT), a program map table (PMT), a conditional access table (CAT), and so on as shown in FIG.2, to the digital television 500 in the format of a transport stream (TS) consisting of 188-byte-long transport packets (TPs).

Please replace the paragraph beginning on page 2, line 19, with the following rewritten paragraph:

To provide PSI for a recorded data stream to the digital television, which is connected through a digital interface such as IEEE 1394 standard, intermittently and periodically as in a digital broadcast signal, it may be considered that PSI is recorded dispersedly and repeatedly in a data recording area 'AREA 1' of a HD-DVD as shown in FIG. 3, and it is retrieved and transmitted sequentially along with the data stream.

Please replace the paragraph beginning on page 2, line 26, with the following rewritten paragraph:

However, if PSI is recorded dispersedly and repeatedly in a data recording area of a disk, the recording area for real data, that is, video and/or audio data is greatly reduced, which causes a decrease in the recording efficiency of a disk.

Please replace the paragraph beginning on page 2, line 30, with the following rewritten paragraph:

In addition, the digital television must wait to receive one in a regular sequence among the PSI recorded dispersedly in the data recording area to present a received data stream even though data receiving has been resumed after a reproduction point is moved according to a key command of a user, or

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the digital interface such as IEEE 1394 standard is reset. Since the digital television can not select a data stream to decode into real picture and/or sound until the PSI for the data stream is received, there is inevitably discontinuity in video and/or audio or blank screen for a duration of time.

Please replace the paragraph beginning on page 3, line 8, with the following rewritten paragraph:

It is an object of the present invention to provide an optical disk containing PSI in its management recording area and a method for recording PSI in an optical disk and providing the recorded PSI to a digital television, which records PSI for the recorded data stream in a specific area where management information for the recorded real data is written and, if it is time to send PSI, searches and reads PSI written in the specific area and sends it to a digital television.

Please replace the paragraph beginning on page 3, line 16, with the following rewritten paragraph:

A method of recording stream specific information along with a data stream in a disk according to the present invention, checks whether stream specific information needs to be changed while recording the data stream in the

disk, generates stream specific information corresponding to the data stream being recorded based on the checked result, and writes the generated stream specific information and an additional information, the additional information consisting of start and/or end position data of a related stream object, to link the stream specific information with a stream object.

Please replace the paragraph beginning on page 3, line 26, with the following rewritten paragraph:

A method of providing data stream and stream specific information recorded in a disk according to the present invention, determines whether it is the time to send stream specific information, obtains stream specific information related with a stream object being reproduced or to be reproduced based on the determination result, and transmits the obtained stream specific information, wherein the stream objects have different contents of stream specific information differing from each other.

Please replace the paragraph beginning on page 5, line 5, with the following rewritten paragraph:

The disk device of FIG. 4 comprises a PSI separator 21 separating PSI contained in the received broadcast signal; a signal processor 22 processing the received digital broadcast signal, which the PSI is separated from, into a digital stream compatible with a recording format; a PSI processor 23 processing the separated PSI into a digital stream compatible with a recording format; a signal selector 24 selecting one of either the broadcast digital stream and the PSI stream; a pickup 27 writing the stream selected by the signal selector 24 in a high-density disk 28; a microcomputer 25 controlling the overall recording operation; and a memory 26 for storing data necessary for control operation of the microcomputer 25.

Please replace the paragraph beginning on page 5, line 19, with the following rewritten paragraph:

The PSI separator 21 detects PSI, which consists of PAT, PMT, CAT, and so on as explained above referring to FIG. 2, contained intermittently in digital broadcast signal, and separates it from the received digital broadcast signal. The PSI processor 23 processes the separated PSI into a digital stream compatible with the recording format of a high-density rewritable digital versatile disk (HD-DVD RAM), and the microcomputer 25 compares the separated PSI with PSI detected previously to determine whether the separated

PSI is new, that is, the separated PSI contains data which is different from the data of the previous PSI. If the separated PSI is new, it is written in the high-density disk 28 under control of the microcomputer 25 after being processed by the PSI processor 23.

Please replace the paragraph beginning on page 5, line 32, with the following rewritten paragraph:

When the PSI is processed by the PSI processor 23, control information may be appended to the PSI or the PSI is modified for various presentation appropriate for a data stream reproduced from a disk device. The modified PSI or control information appended PSI is called stream specific information (SSI).

Please replace the paragraph beginning on page 6, line 5, with the following rewritten paragraph:

The recording area where the PSI is written is a management information recording area where navigation data is written. The navigation data is used for controlling reproduction and presentation of recorded broadcast data containing a video and/or audio data stream processed by the signal processor 22. When writing PSI (or SSI), the microcomputer 25 generates

linking information between the written PSI (or SSI) and a stream object, and appends the generated linking information to the written PSI (or SSI). A stream object corresponds to a single program or a digital stream recorded from recording start to stop, and the linking information consists of start and end time of each stream object.

Please replace the paragraph beginning on page 6, line 17, with the following rewritten paragraph:

All of the PSI (or SSI) including the linking information for stream objects, each stream object having different specific information for its own data stream, is written in the management information recording area.

Please replace the paragraph beginning on page 7, line 3, with the following rewritten paragraph:

From now on, a method of reproducing a data stream and specific information from the disk having PSI (or SSI) written only in the management information recording area 'AREA 2' and providing them to a digital television will be described.

Please replace the paragraph beginning on page 7, line 23, with the following rewritten paragraph:

The microcomputer 37 conducts an operation to provide PSI (or SSI), which corresponds to the present data stream being reproduced or to be reproduced, to the digital television 500. To do so, it reads from the management information recording area 'AREA 2' when a key command directly from a user is entered, a packet command from the digital television 500 connected through IEEE 1394 standard is received, or there occurs a bus reset on the IEEE 1394. Then, the digital television 500 interprets the PSI (or SSI) received through the IEEE 1394 bus, and selects and decodes a data stream based on the interpretation of the PSI (or SSI).

Please replace the paragraph beginning on page 8, line 11, with the following rewritten paragraph:

After that, the microcomputer 37 monitors (S12) the operation mode of the disk device 300 and the digital television 500 connected through IEEE 1394 standard as well as whether a bus reset occurs on the digital interface of IEEE 1394. If the operation mode of the disk device 300 is reproduction mode (S13) in which a data stream recorded in the disk is or to be reproduced and transmitted in the form of TS, the microcomputer 37 checks whether a

transmission operation of TS is first (S14), and if so, it searches the memory 38 for PSI (or SSI) corresponding to a stream object to be reproduced based on the linking information appended to all of PSI (or SSI) and applies the adequate PSI (or SSI) to the TS multiplexer 35 along with the real data stream reproduced from the data recording area 'AREA 1' of the disk 31.

Please replace the paragraph beginning on page 9, line 3, with the following rewritten paragraph:

The SIP may be 188-bytes long as specified for a transport packet (TP) in digital broadcast standard, and it may be transmitted repeatedly every 40 msec as shown in FIG. 8.

Please replace the paragraph beginning on page 9, line 6, with the following rewritten paragraph:

If a data stream of a new program starts to be transmitted, that is, a new stream object starts to be reproduced (S15) while a data stream being reproduced from the high-density disk 31 is being transmitted in the format of TS, the microcomputer 37 also searches the memory 38 for PSI (or SSI) corresponding to the new stream object to be reproduced and applies the appropriate PSI (or SSI) to the TS multiplexer 35 along with the real data

stream belonging to the new stream object which is reproduced from the data recording area 'AREA 1' of the disk 31.

Please replace the paragraph beginning on page 9, line 15, with the following rewritten paragraph:

For example, if the start position information of the (N+1)-th stream object is detected after the N-th stream object is completely reproduced as shown in FIG. 8 while reproducing the disk 31, the microcomputer 37 reads the PSI (or SSI) corresponding to the (N+1)-th stream object from the memory 38 and then applies the read PSI (or SSI) to the TS multiplexer 35. In other words, the microcomputer 37 searches for PSI (or SSI) corresponding to each stream object being provided to the digital television 500 at present, based on the linking information and applies the found PSI (or SSI) to the TS multiplexer 35.

Please replace the paragraph beginning on page 9, line 31, with the following rewritten paragraph:

And, if the microcomputer 37 conducts a long jump of the pickup 32 according to a key input from a user (S16), it searches the memory 38 for PSI (or SSI) corresponding to the new or same stream object to be reproduced after

the long jump, and applies the appropriate PSI (or SSI) to the TS multiplexer 35 along with the real data stream belonging to the stream object to which the pickup 32 is moved.

Please replace the paragraph beginning on page 10, line 10, with the following rewritten paragraph:

And, if the digital television 500 connected with the disk device 300 through the IEEE 1394 standard is turned on (S17) or its viewing channel is changed (S18), a corresponding command is sent to the microprocessor 37 of the disk device 300 through the digital interface. At this time, the microcomputer 37 reads PSI (or SSI) corresponding to a stream object being provided, or to be provided on request of disk reproduction to the digital television 500, and applies the appropriate PSI (or SSI) to the TS multiplexer 35 along with the real data stream, if it is in a reproducing mode at present.

Please replace the paragraph beginning on page 10, line 26, with the following rewritten paragraph:

Furthermore, if a reset occurs on the IEEE 1394 digital interface (S19), the microcomputer 37 detects the reset while monitoring the status of the digital interfacing bus, reads again PSI (or SSI) corresponding to a stream

object being provided, or to be provided to the digital television 500, and applies the appropriate PSI (or SSI) to the TS multiplexer 35 along with the real data stream, if it is in a reproducing mode at present.

Please replace the paragraph beginning on page 11, line 8, with the following rewritten paragraph:

To be brief, whenever there is a command from a user or the digital television 500 connected through IEEE 1394, or a reset occurs on the interface bus, the disk device 300 reads the stored PSI (or SSI), which was reproduced beforehand from the management information recording area 'AREA 2' of the high-density disk 31, and then provides the read PSI (or SSI) to the connected digital television 500, so that the digital television 500 can select and decode the data stream from the disk device 300 immediately after the interpretation of the PSI (or SSI) is done.

Please replace the paragraph beginning on page 11, line 18, with the following rewritten paragraph:

The method of providing specific information on a data stream according to the present invention can maintain the disk storage capacity for real video and/or audio data by recording stream specific information in a

management recording area of a high-density disk, and provide the stream specific information to a digital television promptly when it is necessary, thereby reducing the time duration of blank screen or discontinuity in video and/or audio presentation.

In the Claims:

Please amend the claims as follows:

1. (Amended) A method of recording stream specific information along with data stream in a disk, comprising the steps of:

separating program specific information contained in a received broadcast signal from the broadcast signal;

converting the separated program specific information into stream specific information and processing the stream specific information into a digital stream compatible with a recording format;

comparing the separated stream specific information with previous stream specific information to determine whether if contains data that is different from the previous stream specific information;

checking whether stream specific information is the same or needs to be changed while recording the data stream in the disk;

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